

THE ADVISOR

A Publication of the Rocky Flats Citizens Advisory Board

Fall 1998

Four Years After Major Plutonium Problems Identified: What Progress Has Been Made?

Four years ago, Rocky Flats got a wake-up call regarding the safety of its inventory of plutonium.

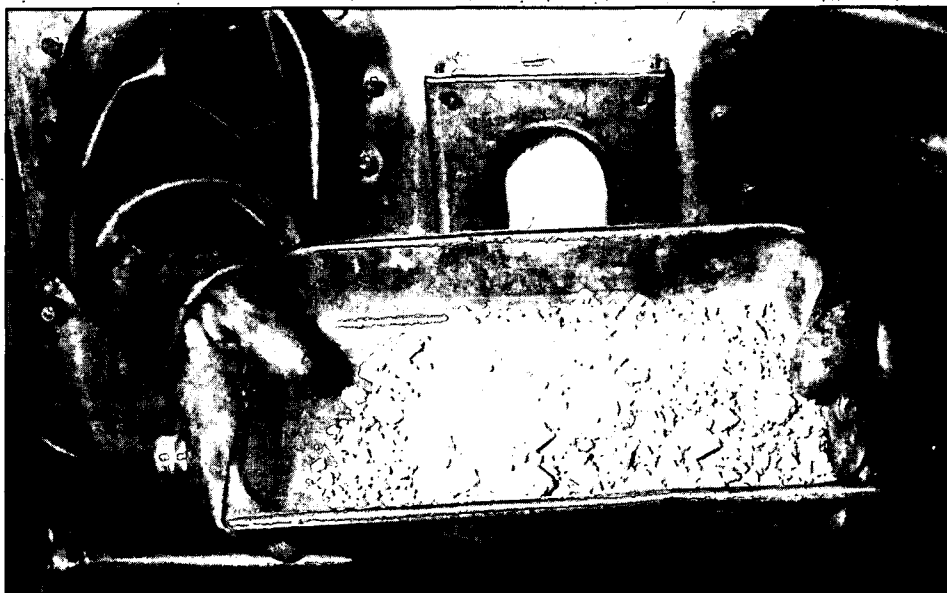
Rocky Flats had been storing approximately 14 tons of plutonium in various forms, including pits, metal, oxides, and solutions since production was stopped in 1989. During 1994, the Department of Energy (DOE) conducted an assessment of environmental, safety and health vulnerabilities associated with plutonium storage. Rocky Flats was found to have five of the nine most vulnerable facilities in the nation, including the two ranked most dangerous.

During that same year, the Defense Nuclear Facilities Safety Board (DNFSB), a congressionally-appointed panel overseeing DOE's nuclear work, issued Recommendation 94-1 regarding important changes which were needed to remedy potential "imminent hazards" regarding the storage of plutonium.

These reports caught the attention of DOE officials and the public. This concern was reflected at the first Rocky Flats stakeholder Summit in 1995. The attendees agreed that stabilizing and ensuring safe storage of plutonium should be the first priority at Rocky

Flats, otherwise stated as - "It's the plutonium, stupid." Since this time, Rocky Flats has made it a priority to improve the storage conditions for all types of plutonium at the site.

The DOE plutonium vulnerability study and the DNFSB recommendation alerted DOE to several of the same problems regarding plutonium at Rocky Flats. One of the most significant problems related to the packaging of the plutonium materials. Especially of concern was plutonium in contact with plastic. Plutonium in contact with plastic can lead to potential fire danger. Additionally, hydrogen gas was building up inside many drums containing plutonium residues. Left unchecked, this could result in an explosion. Rocky Flats also housed a backlog of potentially dangerous plutonium oxide; a powder-like substance, which needed to be stabilized. Another concern was plutonium solutions being stored in deteriorating tanks and piping in various buildings onsite. Also, plutonium was housed in several facilities at Rocky Flats, many of which were susceptible to certain severe conditions, such as earthquakes. Beginning formally in 1994, Rocky Flats embarked on a path to remedy these and other plutonium safety problems.



Treatment of plutonium residues, such as these salt residues, remains one of the highest priority activities at Rocky Flats.

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Rocky Flats Updates



Congress Gives RFETS Extra Funding

In a surprising development, both houses of the U.S. Congress approved a Fiscal Year 1999 (FY99) budget for Rocky Flats that is about \$40 million more than the Department of Energy requested. The details will be worked out in conference committee in September, but the extra funding brings Rocky Flats back up to the amount it says it needs to stay on track with its closure plan. FY99 will begin on October 1, 1998.

T1 Trench Cleanup Progress

Excavation of the T1 Trench began on June 10, 1998 (see photo on opposite page). The first drum removed from the trench was a 30-gallon drum with a deteriorated lid. There was a rise in temperature within the drum upon exposure to air, which would indicate potential for fire and/or an explosion. The drum was replaced and inerted with soil.

Although only 125 drums were expected to be found in the trench, workers had removed 132 drums as of July 22. A number of the drums found to date carry a label from Los Alamos. These were not accounted for in records, and were therefore not expected.

Approximately 30% of the trench has been excavated as of July 22. Rocky Flats expects to complete the T1 project in September 1998.

Building 779 D&D Update

To date, 41 gloveboxes have been removed from Building 779. Rocky Flats hopes to increase the glovebox removal rate to 20 per month.

An accident occurred in Building 779 on July 16, resulting in the contamination of three workers. An electrical panel used to monitor vacuum levels within gloveboxes was moved for disposal preparation. Radiological surveys in the original room showed the panel contained quantities of radionuclides at free release levels. However, since the unit contained inaccessible areas that could not be surveyed, it had to be disposed of as low level waste (LLW).

Upon cutting the panel to separate its contents for disposal, unexpected contamination was released. The three workers were not required to wear respirators, and were contaminated with about 100 disintegrations per minute. Lung counts showed no contamination. The workers were scrubbed, examined repeatedly including a bioassay, and extensively questioned to determine what happened. DOE and Kaiser-Hill have developed a new policy that states that first cuts for all waste types will require respiratory protection. The workers will return to work upon completion of the bioassays.

The workers on this project come from a D&D worker population of about 60. The site plans to increase this D&D worker population to nearly 400 as project numbers and complexity increase over the next few years.

Another WIPP Wait

The Waste Isolation Pilot Plant (WIPP) was scheduled to receive its first transuranic waste shipment from DOE's Los Alamos National Laboratory (LANL) in June of this year. Once again, its opening was delayed. Currently, there are at least two legal challenges to its opening.

While EPA completed its certification of WIPP and approved its opening earlier in the year, the State of New Mexico only recently issued a draft permit for disposal of the hazardous portion of the waste. This permit is now under public review.

DOE's position is that it can ship straight transuranic (TRU) waste to the plant without the state's permit and it planned to begin with the LANL waste. However, the New Mexico Department of Environment objected to the shipment from LANL until DOE can prove that the waste contains no hazardous chemicals. DOE chose to delay the LANL shipments.

Recently, New Mexico Attorney General Tom Udall filed a lawsuit against DOE to delay the shipments until the state's hazardous waste permit is issued. Also, the State of New Mexico and New Mexico watchdog groups filed a suit in mid-July stating that EPA has wrongly certified WIPP. The lawsuit calls for DOE and EPA to repeat the certification process, an action that could delay WIPP's opening for two years.

Various stakeholders have been requesting that DOE develop readily-implementable contingency plans in case WIPP did not open, which now appears to be the case. If WIPP does not open in September, Rocky Flats will need to implement a contingency plan for onsite storage of TRU waste.

Soil Action Level Review Project Update

Work is progressing on schedule to begin the independent assessment of the Soil Action Levels (SALs) at Rocky Flats. Risk Assessment Corporation (RAC) from South Carolina has been selected to conduct the assessment. At this writing, final contact negotiations are being conducted, with work to begin on the project in mid-September.

The Rocky Flats SAL Oversight Panel will review and guide the work of the contractor over the next year. Monthly meetings of the Oversight Panel are open to the public. In addition, three broader public information and input meetings will be scheduled during the project. For an update on meeting times and locations, please contact the CAB office at (303) 420-7855.



Excavation of buried drums at Trench T1 in the summer of 1998.

**Looking for More Information?
Want to Share Your Opinions?
Here's How.....**



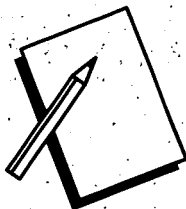
Web Site or E-mail

**www.rfcab.org
or
rfcab@indra.com**



Public Comment Message Line

(303) 637-4808



***Letters to
the Editor / Q&A***

**RFCAB
Newsletter Editor
9035 Wadsworth Pkwy, Suite 2250
Westminster, CO 80021**

Peña Issues Management Plan for Rocky Flats Closure

Just prior to leaving office, Energy Secretary Federico Peña set in place a strategy, known as the Rocky Flats Closure Project Management Plan, that the Department of Energy must follow in order to accomplish a 2006 closure of Rocky Flats. Rocky Flats has been chosen by DOE for accelerated closure and increased funding because it is the largest of the former weapons complex sites that has no continuing mission and is positioned to be closed for good.

Four strategies comprise this management plan: 1) accelerate shipment of materials and waste; 2) minimize construction of new facilities or process capabilities; 3) organize the workforce for accelerated closure; and 4) develop and execute a business strategy consistent with accelerated closure. To accomplish each of these goals, the plan lays out a series of actions, identifies responsible personnel and sets a date for completion.

Although the cleanup of Rocky Flats has historically been the responsibility of the Assistant Secretary for Environmental Management, Peña elevated the responsibility for this project by assigning the Deputy Secretary of Energy to serve as the primary government official. The Deputy Secretary will coordinate a DOE team consisting of representatives from several Headquarters organizations, including the Assistant Secretaries for Environmental Management, Defense Programs, Human Resources and Administration, and Environment, Safety and Health; General Counsel; the Chief Financial Officer; the Directors of the Office of Nuclear Nonproliferation, Field Management, Fissile Materials Disposition and Worker and Community Transition; and the Manager of the Rocky Flats Field Office. This team will meet monthly to monitor the progress of the project, seek ways to assist in acceleration of closure, integrate issues across the complex, and ensure that this project remains a DOE priority. These meetings will serve as a forum for the various DOE program representatives to resolve issues that have a potential to affect Rocky Flats closure.

The plan also contains a description of what must change from the 2010 closure baseline in order for Rocky Flats to close in 2006. There are four primary requirements: 1) shipment of plutonium metals and oxides must begin in January 2000, two years earlier than currently planned; 2) deactivation and decommissioning must be performed concurrently with the stabilization, packaging and shipping missions; 3) certain residues must be shipped to WIPP without additional processing; and 4) the final closure cap must be able to be constructed in parallel with other closure activities and construction time must be decreased by one year.

DOE has committed to providing regular updates on the progress of the accelerated closures initiatives. RFCAB will be among the many groups and individuals watching these developments closely. Watch this newsletter for updates. If you would like more details on the progress of the closure plan, please contact the RFCAB office to find out about public meeting schedules and other available information.

Rocky Flats Studies Effects of Beryllium on Workers

The first case of beryllium disease at Rocky Flats was diagnosed in 1984. Soon after the first diagnosed case, a study was initiated to determine the extent of the disease. Eighteen further cases were discovered among the workers at the site.

Beryllium is a hard, gray-white metallic element. It was processed and machined at Rocky Flats for nuclear weapon production, and has also been used in other industries for electrical and aircraft parts and ceramics.

Inhalation of beryllium has caused cancer in laboratory animals and it has been classified by the EPA as a probable human carcinogen of medium hazard. The quantity and the duration of exposure are key factors in determining health impacts.

In 1991, the site chose to expand its beryllium study into a surveillance of all

the current site employees. The surveillance was expanded again in 1994 to include former site employees. This surveillance survey discovered a total of 84 confirmed cases of chronic beryllium disease.

Chronic Beryllium Disease, such as what was found at Rocky Flats, is the result of long-term exposure to low levels of beryllium. Symptoms of this disease include shortness of breath, scarring of lung tissue, and non-cancerous growths in the lungs.

Acute Beryllium Disease is the result of short-term exposure to high beryllium levels. Symptoms include temporary reddening and inflammation of the lungs.

Both types of beryllium disease can be fatal. Steroid treatment can be used in one-half of the chronic cases, but no cure has been found for this disease.

Another 168 cases of sensitization were also discovered. Beryllium sensitization is the activation of the immune system in response to beryllium exposure. In most cases, the immune system is able to rid the body of the beryllium, but certain individuals are sensitized and susceptible to the disease.

Rocky Flats has been on the leading edge in beryllium studies. For this reason, DOE Headquarters is planning to expand the Rocky Flats beryllium studies to other sites throughout the DOE nuclear weapons complex. The center for the complex-wide study will be located at DOE's Oak Ridge National Laboratory. DOE Headquarters plans to use the Rocky Flats studies to develop the policies and procedures for the complex-wide studies. Arrangements are still being made to begin the implementation of this plan.



We would like to answer your questions about Rocky Flats. If anything you read in this issue brought up questions for you, or you have been wondering about anything related to Rocky Flats, just ask us to find an answer for you. Please send, call in, fax or e-mail your questions to us by October 14 and we will try to answer them in our next issue.

Rocky Flats Citizens Advisory Board

9035 Wadsworth Parkway
Suite 2250
Westminster, CO 80021

(303) 420-7855
fax (303) 420-7579
e-mail: rfcab@indra.com

Correction Notice

The Summer 1998 issue of *The Advisor* contained a sentence that was not correct. The article titled "Several Rocky Flats Buildings Slated for Cleanup and Demolition", in discussing D&D progress in Building 771, stated: "So far, about 88 gloveboxes (out of 198) have been removed, and all 290 of the process liquid tanks have been drained." This sentence should have read: "So far, all 290 process liquid tanks have been drained, and all 198 gloveboxes, grouped into 81 units for removal, are scheduled to be removed before the building is demolished."

We apologize for the mistake.

In Our Next Issue

The Winter 1998 issue of *The Advisor*, due in December, will feature a look back on the Rocky Flats Citizens Advisory Board's first five years. The Board held its first official meeting in November of 1993, and since then has made nearly 70 recommendations regarding the cleanup of Rocky Flats.

In addition to looking at 1993 through 1998, this issue will take a look at what has been going on with public involvement at other DOE sites. We will look forward as well, by highlighting what is coming up in 1999 at Rocky Flats. Look for this issue around December 1.

Update on Plutonium Storage Safety (continued from page 1)

What progress has been made since 1994? What else is left to do? The following information has been compiled to show how current conditions in 1998 compare to those in 1994.

What Has Been Made Safer?

Significant progress has been made in many areas:

- All plutonium that was identified to be in contact with plastic has been repackaged.
- All residue drums that were identified to have a potential for hydrogen buildup have been vented.
- All of the backlogged plutonium oxide has been thermally stabilized and any new oxide is stabilized as it is collected.
- All tanks containing plutonium solutions have been drained, and the solutions processed. (With the beginning of pipe draining, the site has recently decided to seal off and remove individual sections of piping as part of the ongoing decommissioning. Originally, the site intended to first drain all of the pipes and then go in and remove them. The new approach will take longer, but will reduce potential exposures to workers.)
- Consolidation of plutonium into Building 371 is proceeding. This building was chosen to temporarily house all of the plutonium because it is the newest and most sturdy facility at Rocky Flats. Building 779 is now free of nuclear materials and Building 771 is free of all metal and oxide. Plutonium should be out of Building 776 in 2000 and Building 707 by 2001 or 2002.
- Rocky Flats has also been shipping nuclear materials off-site. By early next year, the site plans to complete shipment of all plutonium pits (Rocky Flats' primary product during production years) to the Pantex facility in Texas. (Note: This schedule is currently delayed due to funding problems at Pantex)

What is Left To Do?

Much of Rocky Flats' plutonium metal and oxide must be packaged in special long-term storage containers, known as the 3013 can. Originally scheduled to begin this fall, the contractors at Rocky Flats have missed deadlines for installation of the packaging equipment. Packaging is now expected to begin in March, 2000. This metal and oxide is scheduled to be shipped to Savannah River, South Carolina for storage, where it will await final disposition. According to current DOE projections, shipping will begin in 2002 and last until 2004. However, DOE would like to accelerate this schedule.

Stabilization and repackaging of plutonium residues is also currently underway at Rocky Flats. Residues are materials in various forms which contain a high enough amount of plutonium that would have made it economically feasible to recover and reuse during the production era. These materials are now considered waste and must be treated and dispositioned accordingly. There are several different types of residues, and a number of treatment processes are envisioned. According to



A Rocky Flats worker vents a mixed waste drum, to relieve any buildup of potentially-explosive hydrogen gas.

the current closure plan, all residues are scheduled to be stabilized and packaged by 2002. The residue treatment schedule is highly dependent on the now-delayed opening of the Waste Isolation Pilot Plant in New Mexico to accept transuranic wastes, including many of the residue types. If WIPP does not open, Rocky Flats will need to pursue the development of interim storage space onsite in the near future to accommodate the growing transuranic waste inventory.

Improving the safety of plutonium storage at Rocky Flats is a first step in moving toward closure of this site. Many other related projects remain, such as disposition of the remaining waste and nuclear materials, decontamination and demolition of buildings and environmental restoration. However, several controversial issues need to be addressed as cleanup progresses. These include publicly-acceptable disposition of wastes, concerns over soil cleanup levels and the many technical challenges of a complicated cleanup.

To Stay Informed

Anyone interested in learning more about the progress of these activities is encouraged to call the RFCAB office at (303) 420-7855 for more information.

Site-Specific Advisory Boards A R O U N D THE DOE WEAPONS COMPLEX

This Issue: Nevada Test Site Community Advisory Board

The Rocky Flats Citizens Advisory Board is one of several Site-Specific Advisory Boards (SSABs) that have been formed at former nuclear weapons production sites. In each issue of The Advisor, we spotlight the activities of one of these boards.

Larger than the state of Rhode Island, the Nevada Test Site (NTS) encompasses 1,350 square miles in southern Nevada. The remote site is also surrounded by thousands of additional acres of land withdrawn from the public domain for use as a protected wildlife range and for a military gunnery range, creating an unpopulated land area comprising some 5,470 square miles.

Established as the Atomic Energy Commission's on-continent proving ground, NTS has seen more than four decades of nuclear weapons testing. Since the nuclear weapons testing moratorium in 1992, test site use has diversified into other programs such as hazardous chemical spill testing, emergency response training, conventional weapons testing, and waste management and environmental technology studies.

The Community Advisory Board (CAB) for the Nevada Test Site has been in existence since 1994. The Board currently has 15 members, each representing diverse views.

The NTS CAB decided earlier this year to host a Low Level Waste Seminar for Site Specific Advisory Boards (SSABs) throughout the weapons complex. This seminar was designed to focus on the interaction between SSAB's on the issue of disposition of DOE's low level waste. The seminar was held in Las Vegas August 16-19. As of this writing, no details of the outcome of the seminar were available. However, information will be compiled and available on the NTS CAB's website.

Boards slated to participate included: Albuquerque and Sandia, Fernald, Hanford, Idaho, Los Alamos, Oak Ridge,

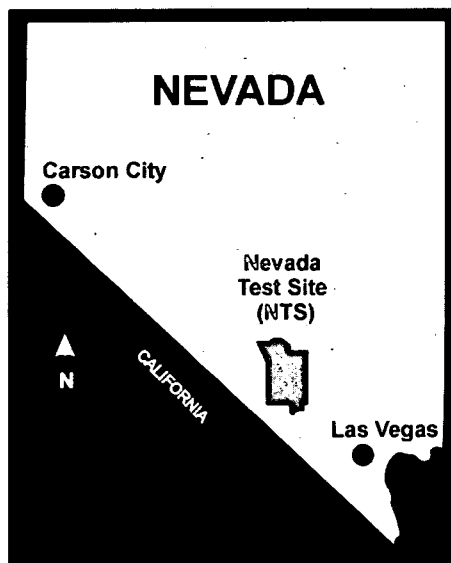
Paducah, Pantex, Rocky Flats, and Savannah River. The objectives of the seminar were:

- to learn about the present configuration of low level waste at each of the DOE sites;
- to learn the status of DOE's efforts to determine the disposition for low level waste;
- to discuss SSAB member concerns about how the disposition process will proceed; and
- to establish communication among the various SSABs to enable a continued dialogue.

Sites throughout the country are faced with the complex issue of how to dispose of low level waste, generated through environmental remediation, cleanup, and decontamination and decommissioning activities. Stakeholders have many con-

cerns about what to do with the waste, such as its transportation, risk considerations, characterization, consolidation, and commercial disposal. At this seminar, participants discussed their concerns specifically relating to political, equity and regulatory considerations; economics and political policies; transportation of waste; as well as stakeholder, state, and tribal concerns.

Other issues the NTS CAB will focus on this year include plutonium soil remediation, groundwater characterization study, transportation of low level waste; equity - life cycle funding, and focus on the 2006 plan and related topics. For more information about NTS CAB, or the Low Level Waste Seminar, visit the Board's website.



The Nevada Test Site is located in southern Nevada, approximately 65 miles northwest of the city of Las Vegas.

(<http://hrcweb.lv-hrc.nevada.edu/cab/cabmain.htm>)

Meet CAB's Newest Board Members

The Board approved two new members at its July meeting (Carol Barker and Meir Carasso) and two members at its August meeting (Gerald DePoorter and Bryan Taylor). Please take a moment to get acquainted with them.



Carol Barker

Carol is a former worker at Rocky Flats. She retired in 1995 after 30 years at the site. Carol served as a program administrator for workforce restructuring, director of safety, safeguards and security management systems, manager of health and safety support systems, and worked many years in the environmental monitoring area as well. She has a BS in Business Administration, and is a long-time resident of Westminster.



Meir Carasso

Meir has a Ph.D in engineering, and is retired from the National Renewable Energy Laboratory in Golden. Throughout his career he has worked on numerous energy related research, development and engineering projects. Dr. Carasso was a manager in the Systems Integration Office of the California Energy Commission, a project engineer for Bechtel Corporation, a program and research assistant at the University of California-Berkeley, and an engineer for Lockheed. He is a resident of Lakewood.

Gerald DePoorter

An associate professor of Metallurgical Engineering at the Colorado School of Mines, Gerald has a Ph.D. in Engineering, an MS in Engineering, and a BS in Ceramic Engineering. He has previously worked as a geochemistry project manager and research scientist for Los Alamos National Laboratory, and has co-authored numerous scientific studies and reports. Gerald is a resident of Superior.

Bryan Taylor

Bryan is an associate professor with the Department of Communication at CU-Boulder. He has completed a variety of studies and reports on communication in and about DOE facilities, and the interaction between nuclear weapons authorities and public interest groups. Bryan has a Ph.D. in Communication, an MS in Speech Communication and a BA in Communication Studies. He is currently a resident of Longmont.

THE CITIZENS ADVISORY BOARD CONTINUES TO SEEK NEW MEMBERS

If you would like to receive an RFCAB Membership Application packet, please call our office at (303) 420-7855, fax your request to (303) 420-7579, e-mail us at rfcab@indra.com or mail a request to: RFCAB, 9035 Wadsworth Parkway, Suite 2250, Westminster, CO 80021. Informational materials will be sent to you right away.

The Advisor is published quarterly by the Rocky Flats Citizens Advisory Board (RFCAB). The Executive Editor is Tom Marshall. Please send your questions, suggestions and ideas to:

Erin Rogers, Managing Editor
Rocky Flats Citizens Advisory Board
9035 Wadsworth Parkway, Suite 2250
Westminster, CO 80021
Phone: (303) 420-7855 / Fax: (303) 420-7579
E-mail: rfcab@indra.com

Except as noted, all articles are written by RFCAB staff: Ken Korkia, Erin Rogers, Deb Thompson and Brady Wilson. To request a change of address or to add or remove your name from the mailing list, contact Deb Thompson at the above address and phone number. Material may be reprinted if credit is given. RFCAB is funded under a 1998 grant of approximately \$238,000 sponsored by the U.S. Department of Energy.

CAB MISSION STATEMENT

The Rocky Flats Citizens Advisory Board, a nonpartisan, broadly representative, independent advisory board with concerns related to Rocky Flats activities, is dedicated to providing informed recommendations and advice to the agencies (Department of Energy, Colorado Department of Public Health and Environment and the Environmental Protection Agency), government entities and other interested parties on policy and technical issues and decisions related to cleanup, waste management and associated activities. The Board is dedicated to public involvement, awareness and education on Rocky Flats issues.

Rocky Flats Public Meeting Calendar

September

3	<i>Rocky Flats Citizens Advisory Board Meeting</i>	6 - 9:30 p.m.	Westminster City Hall
14	<i>CAB Site Wide Issues / Budget Focus Group</i>	7 - 8:30 p.m.	Westminster City Hall
15	<i>CAB Plutonium Issues Focus Group</i>	7 - 9 p.m.	Westminster City Hall
21	<i>CAB D&D / Closure Plan Focus Group</i>	6 - 8 p.m.	Westminster City Hall

October

1	<i>Rocky Flats Citizens Advisory Board Meeting</i>	6 - 9:30 p.m.	Westminster City Hall
14	<i>CAB Site Wide Issues / Budget Focus Group</i>	7 - 8:30 p.m.	Westminster City Hall
19	<i>CAB D&D / Closure Plan Focus Group</i>	6 - 8 p.m.	Westminster City Hall
20	<i>CAB Plutonium Issues Focus Group</i>	7 - 9 p.m.	Westminster City Hall

November

5	<i>Rocky Flats Citizens Advisory Board Meeting</i>	6 - 9:30 p.m.	Westminster City Hall
9	<i>CAB Site Wide Issues / Budget Focus Group</i>	7 - 8:30 p.m.	Westminster City Hall
16	<i>CAB D&D / Closure Plan Focus Group</i>	6 - 8 p.m.	Westminster City Hall
17	<i>CAB Plutonium Issues Focus Group</i>	7 - 9 p.m.	Westminster City Hall

ALL MEETINGS ARE SUBJECT TO CHANGE, PLEASE CALL BEFORE YOU GO -- (303) 420-7855

Westminster City Hall: 4800 West 92nd Avenue, Westminster

Rocky Flats Citizens Advisory Board

9035 Wadsworth Parkway, Suite 2250

Westminster, CO 80021

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